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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,952	02/25/2004	David A. Hill	BS00-073-D2	8434

7590 10/05/2004  
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MARIETTA, GA 30007-1355

EXAMINER

DINH, TRINH VO

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/784,952	HILL, DAVID A.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Trinh Vo Dinh	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-21 is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>02/25/04</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gietema et al (US 6,222,503 B1) in view of Redheffer (US 2,624,843 of record).

With respect to claim 1, Gietema discloses, in Figs. 1-2, an antenna system comprising a transmission tower (4), a donor antenna (13) mounted on the transmission tower, a signal processing device (col. 12, lines 35-41) mounted on the transmission tower, a coverage antenna (2, 3) mounted on the transmission tower, a first cable (7, 9) connecting the donor antenna to the signal processing, second cable (7, 9) connecting the signal processing device to the coverage antenna wherein the donor antenna comprises an antenna member (13). However, Gietema does not suggest a reflective member. Redheffer discloses, in Fig. 1, a reflective member (9, col. 1, line 57 to col. 2, line 14) surrounding an antenna member (7) longitudinally. It would have been obvious to one having ordinary skill in the art at the time the invention was made to cover Gietema's antenna member with reflective housing as taught by Redheffer in order to minimum standing wave in the transmission line leading to the antenna.

With respect to claim 2, Redheffer discloses the reflective member being disposed on a housing (col. 2, line 9).

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With respect to claims 3-5, Gietema discloses a reflective shield (6) mounted between the donor antenna (13) and the coverage antenna (2, 3) on the transmission tower, and at least one side of the reflective shield being coated with a reflective material. Furthermore, Gietema discloses the tower (4) being a utility pole.

3. Claims 1-2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Halgrimson (US 4,607,389) in view of Redheffer (US 2,624,843 of record).

With respect to claim 1, Halgrimson discloses, in Figs. 1-2, an antenna system comprising a transmission tower (10), a donor antenna (24) mounted on the transmission tower, a signal processing device (21, 23) mounted on the transmission tower, a coverage antenna (20B) mounted on the transmission tower, a first cable (42) connecting the donor antenna to the signal processing, second cable (inherently) connecting the signal processing device (21) to the coverage antenna (20B) wherein the donor antenna comprises an antenna member (24). However, Halgrimson does not suggest a reflective member. Redheffer discloses, in Fig. 1, a reflective member (9, col. 1, line 57 to col. 2, line 14) surrounding an antenna member (7) longitudinally. It would have been obvious to one having ordinary skill in the art at the time the invention was made to cover Halgrimson's antenna member with reflective housing as taught by Redheffer in order to minimum standing wave in the transmission line leading to the antenna.

With respect to claim 2, Redheffer discloses the reflective member being disposed on a housing (col. 2, line 9).

With respect to claim 5, Halgrimson discloses the tower (10) being a utility pole.

***Allowable Subject Matter***

4. Claims 6-21 are presently allowed.

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5. The cited art of record fails to teach an antenna system comprising first and second tower wherein a donor antenna mounted on the first tower, a coverage antenna mounted on the second tower, a second cable connected the signal processing device to the coverage antenna as defined in claim 6, or an antenna member wherein the antenna member produces side lobes characterized by a size and an extent extending radially away from the longitudinal axis and forward and rear lobes characterized by a size and an extent along the longitudinal axis, and a reflecting member surrounding the antenna member and not in contact therewithin, wherein the reflecting member decreases the size and the extent of the side lobes and increases the size and the extent of the forward and rear lobes as defined in claims 10, 14 and 18.

### *Inquiry*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Vo Dinh whose telephone number is (571) 272-1821. The examiner can normally be reached on Monday to Friday from 9:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access

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to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197

(toll-free).

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A handwritten signature in black ink, appearing to read 'Trinh Vo Dinh', with a long horizontal flourish extending to the right.

*Trinh Vo Dinh*

*September 30, 2004*